

**DETECTING CURRENTS IN A SWITCHING REGULATOR**

Abstract of the Disclosure

5        A switching regulator provides energy to an inductor –capacitor  
combination that supply a DC voltage as an output. The presence of a current  
that can be significantly lower than the typical load current is detected using a  
pulse signal that provides a measure of the current supplied by the regulator to  
the inductor. A comparator compares this signal to a reference voltage that is  
10    related to the current level to be detected. This reference voltage is adjustable  
based on the voltage applied by the regulator and the voltage being ultimately  
supplied as the DC output voltage. The comparator and a capacitor perform an  
integration function that results in a voltage that ramps upward if the current  
threshold is being exceeded. When this ramping voltage passes a  
15    predetermined level, a signal is provided to indicate that the threshold has been  
exceeded.